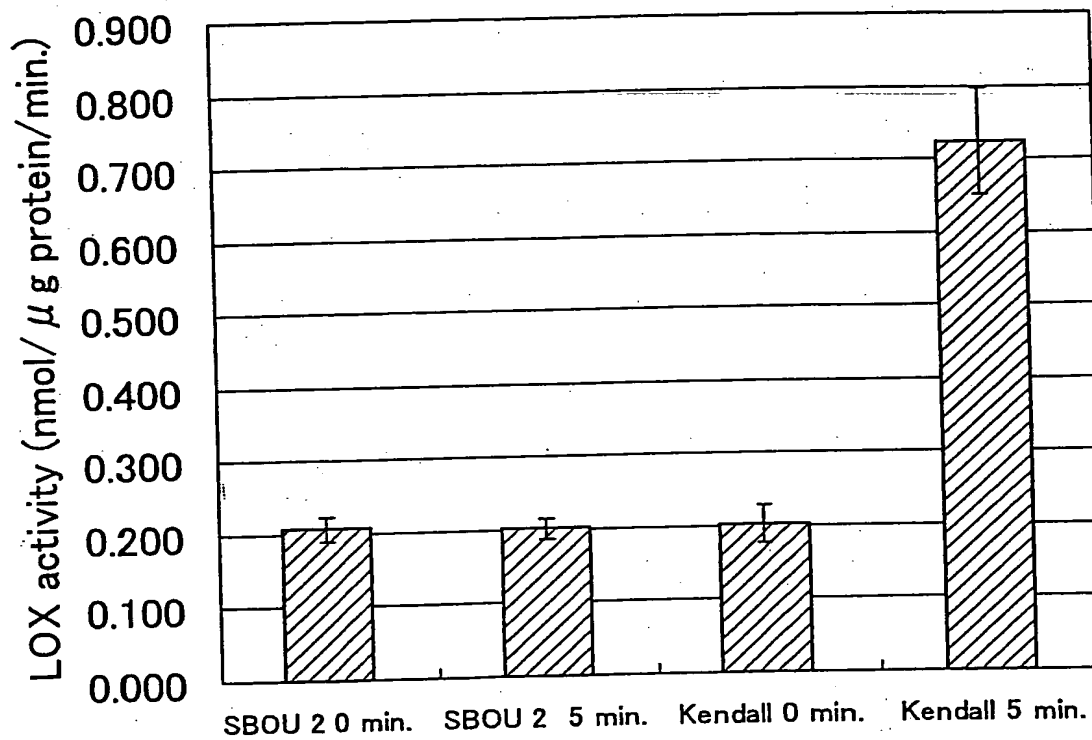


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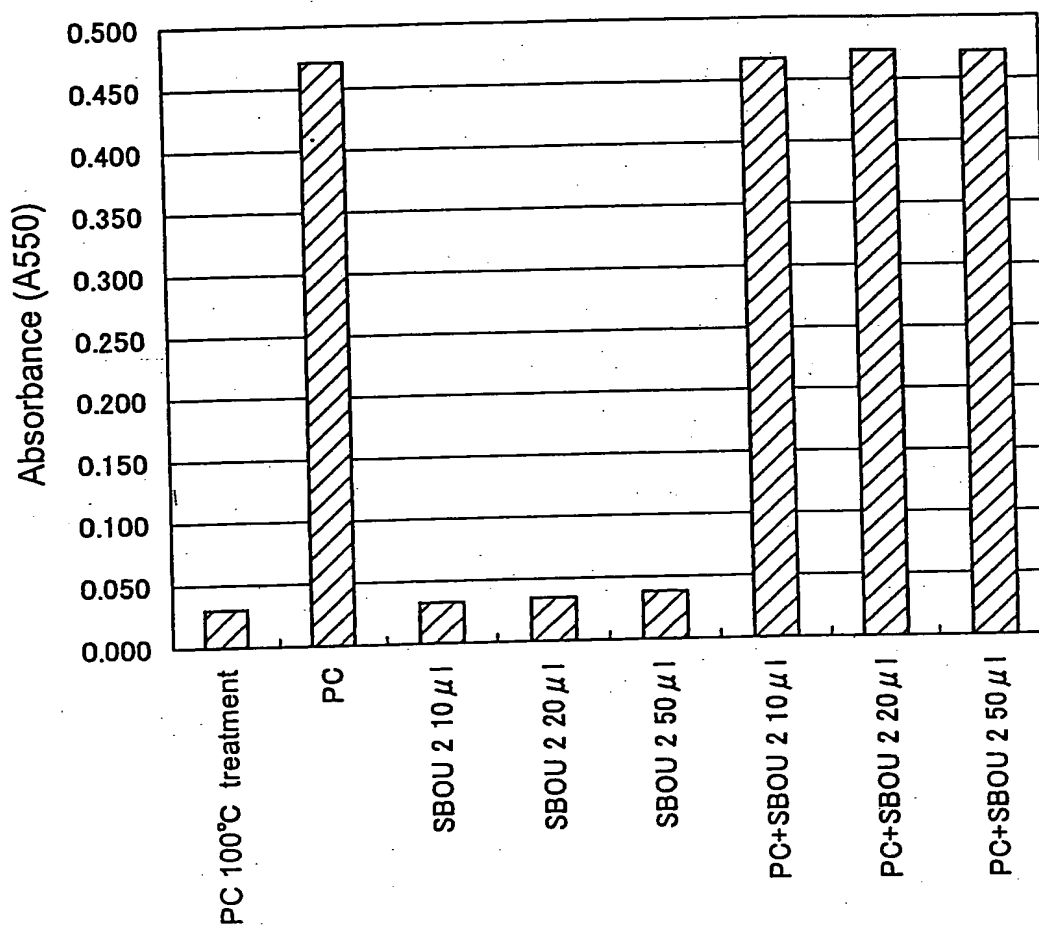
**Fig.1**



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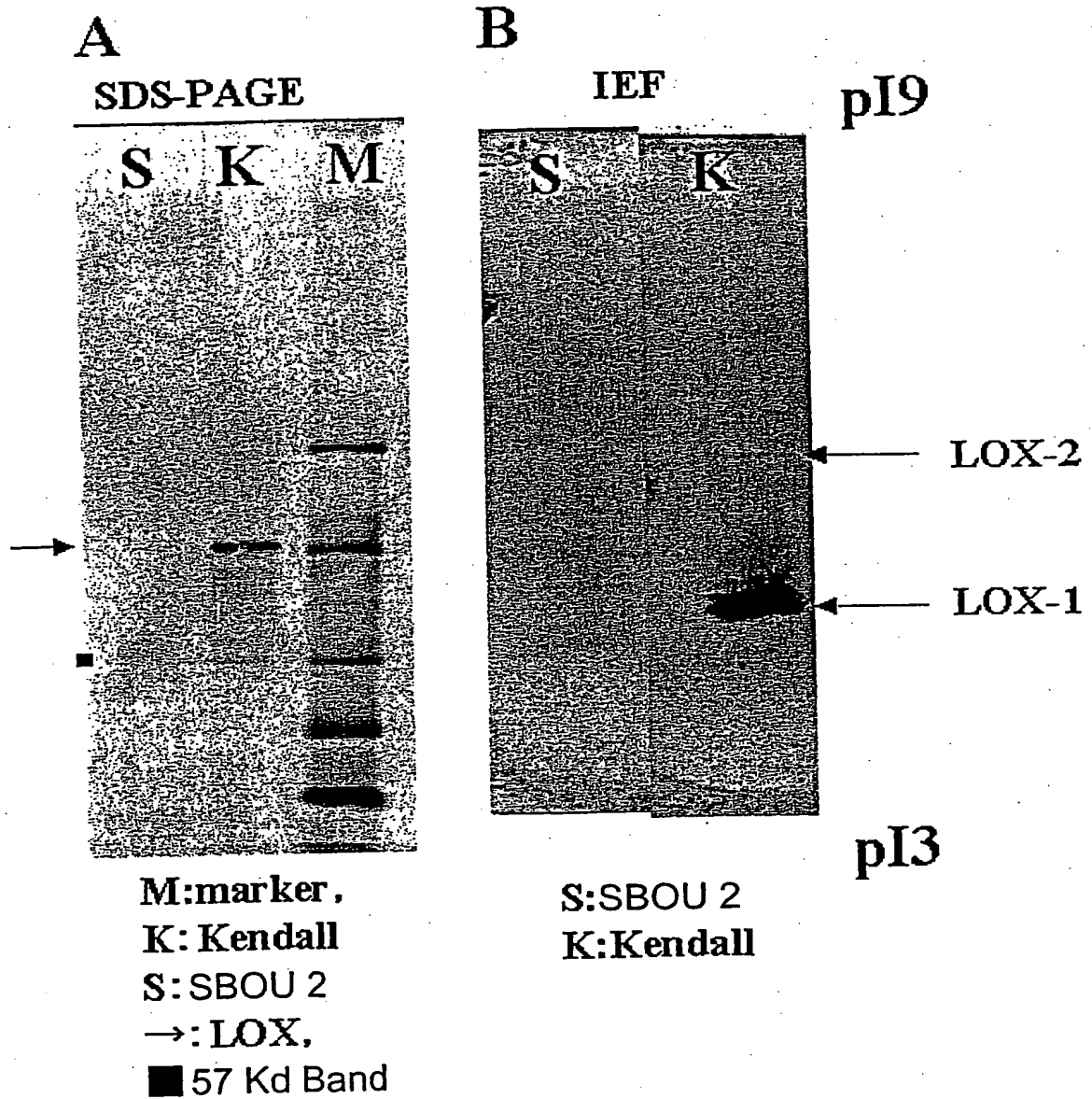
**Fig.2**



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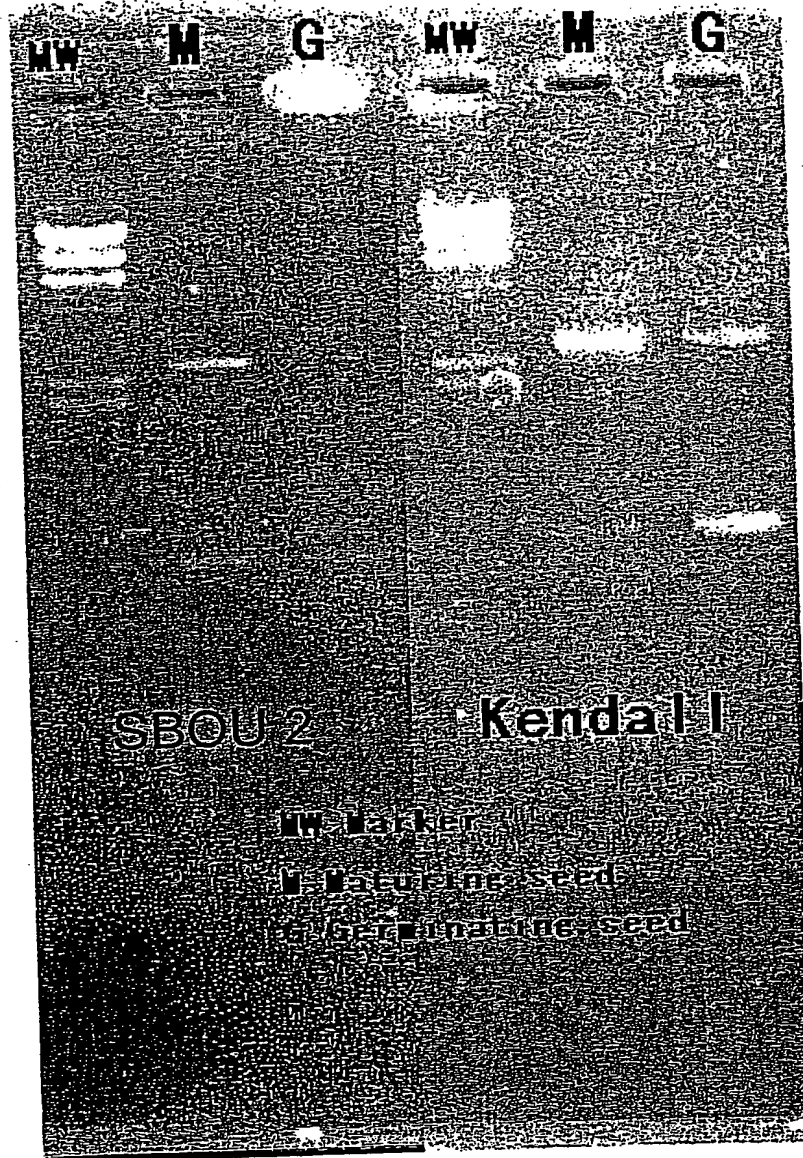
**Fig.3**



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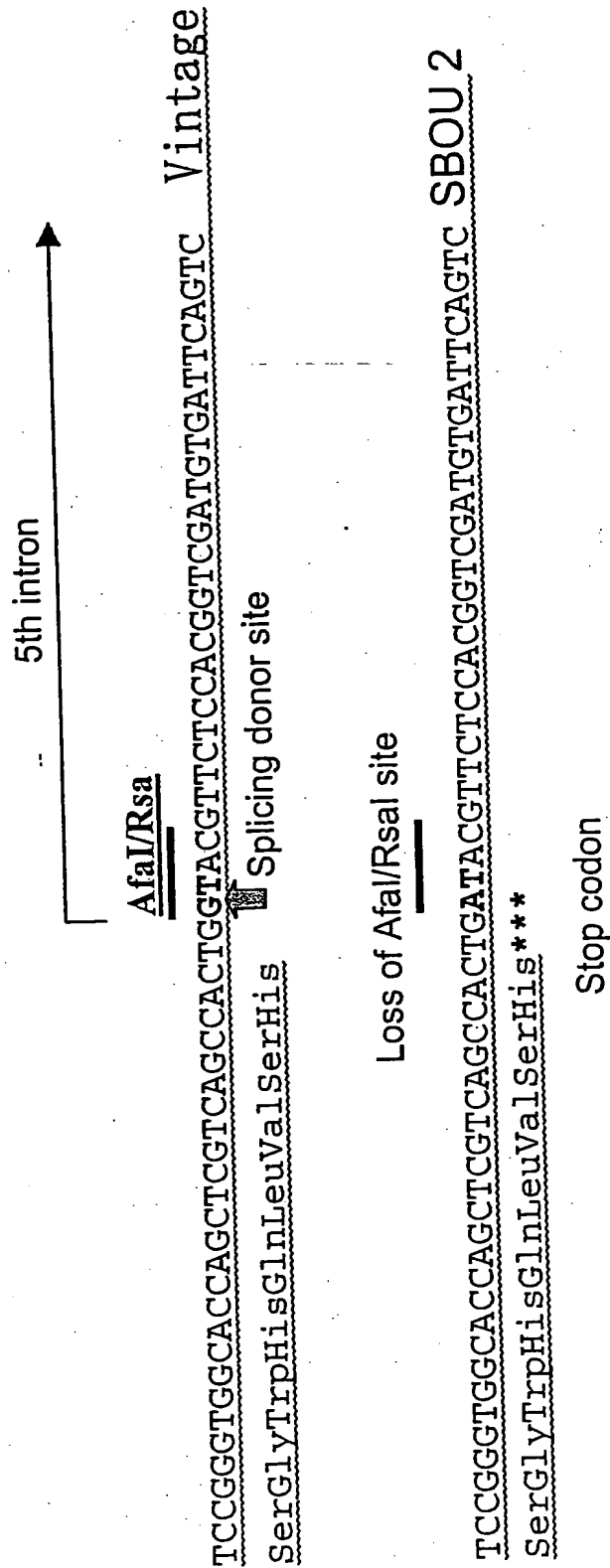
**Fig.4**



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Fig.5

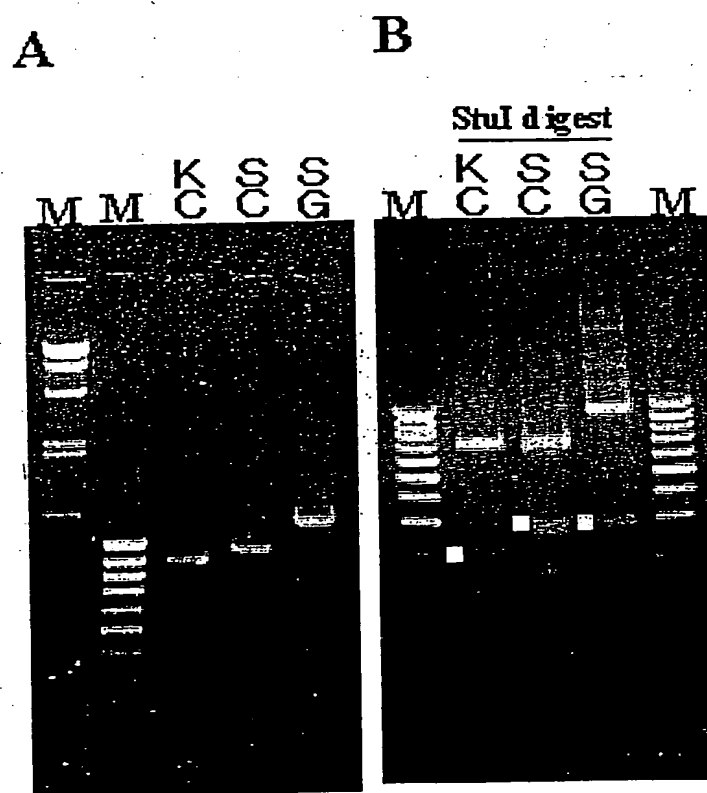


Nucleotide sequences of LOX-1 gene, the regions of 5th intron splicing donor site

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**Fig.6**

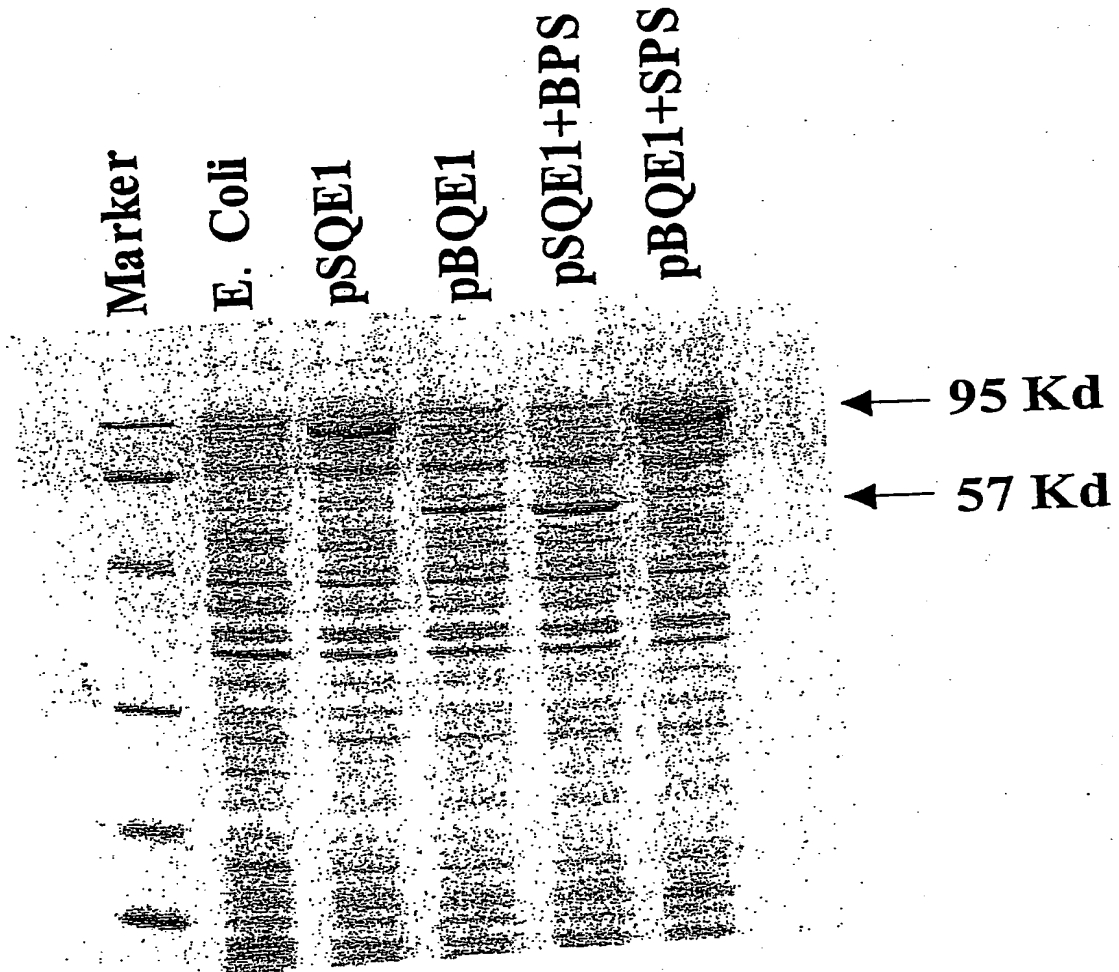


M: Marker,  
KC: Kendall cDNA template  
SC: SBOU 2 cDNA template  
SG: SBOU 2 genomicDNA template

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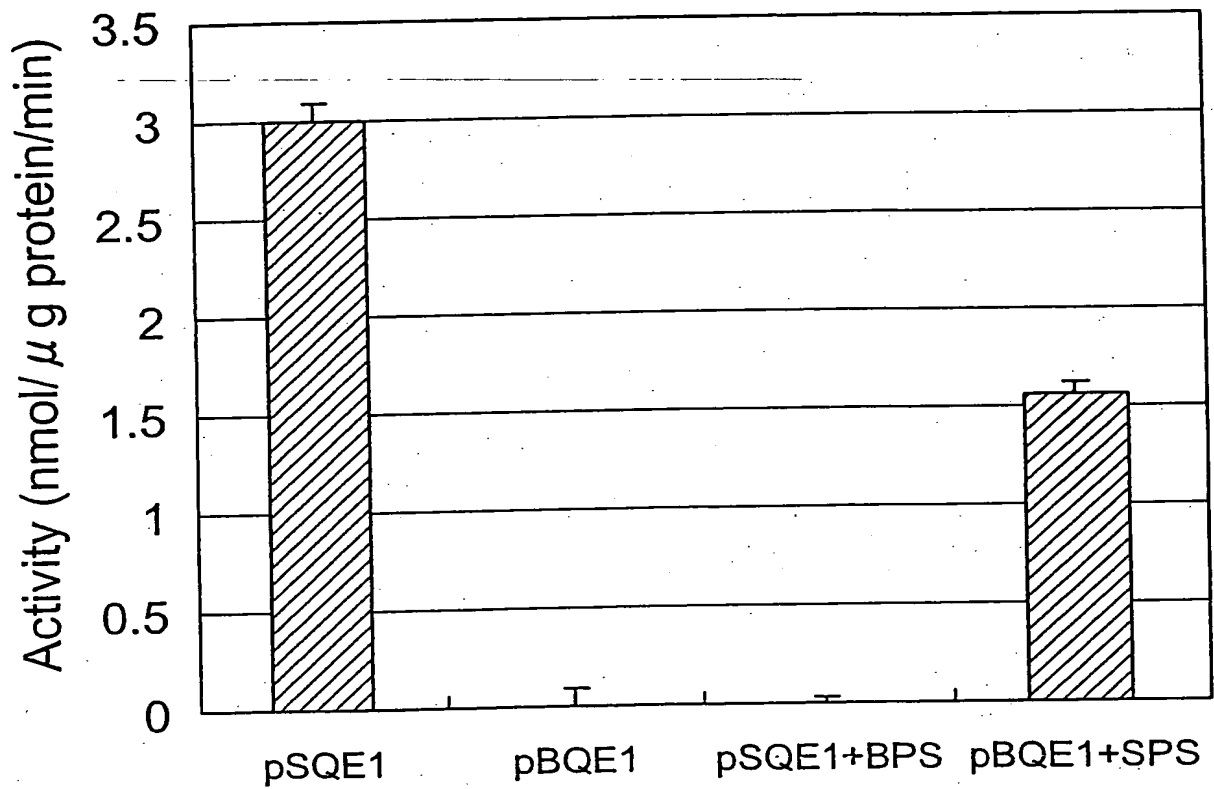
**Fig.7**



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**Fig.8**

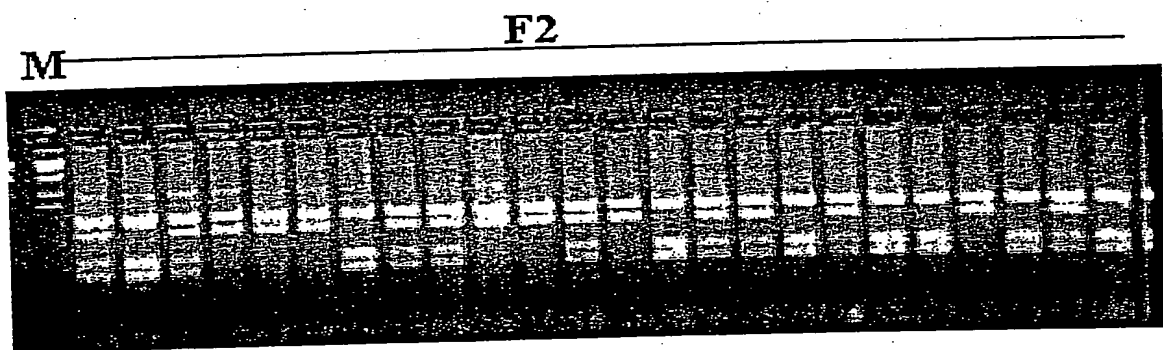




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**Fig.9**



M:Marker

F2:Kendall x SBOU 2 F2 DNA Afal method analysis

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Fig.10

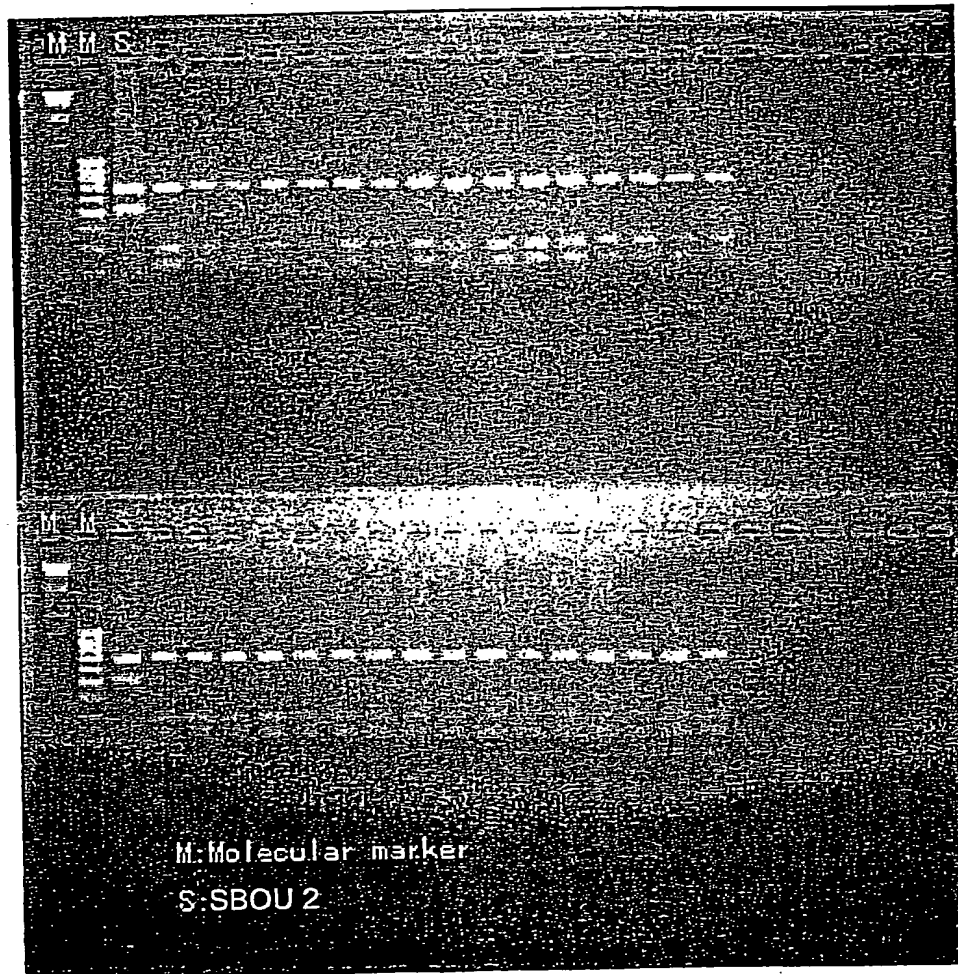
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F2 individual No.	LOX activity	Afal method	JBC970	F2 individual No.	LOX activity	Afal method	JBC970
		CAPS	サザン			CAPS	サザン
1	+	KB	KB	73	+	KB	KB
2	+	KK	KK	74	+	KB	KB
3	+	KB	KB	75	+	KK	KK
4	-	BB	KB	76	+	KB	KB
5	-	BB	BB	77	+	KK	KK
6	-	BB	BB	78	-	BB	BB
7	+	KK	KK	79	+	KB	KB
8	+	KB	KB	80	-	BB	BB
9	+	KB	KB	81	-	BB	BB
10	-	BB	BB	82	+	KB	KB
11	-	BB	KB	83	+	KK	KK
12	+	KB	KB	84	+	KK	KK
13	-	BB	BB	85	-	BB	BB
14	+	KK	KK	86	-	BB	BB
15	+	KB	KB	87	-	BB	BB
16	+	KB	KB	88	+	KB	KB
17	+	KK	KK	89	-	BB	BB
18	+	KB	KB	90	-	BB	BB
19	+	KK	KK	91	+	KK	KK
20	+	KK	KK	92	+	KB	KB
21	-	BB	KB	93	+	KB	KB
22	+	KK	KK	94	+	KK	KK
23	+	KB	KB	95	+	KB	KB
24	+	KK	KK	96	+	KB	KB
25	+	KB	KB	97	+	KK	KK
26	+	KB	KB	98	+	KB	KB
27	+	KK	KK	99	+	KB	KB
28	+	KK	KK	100	+	KB	KB
29	+	KK	KK	101	-	BB	BB
30	+	KB	KB	102	+	KB	KB
31	+	KB	KB	103	+	KB	KB
32	-	BB	KB	104	+	KB	KB
33	+	KB	KB	105	+	KB	KB
34	+	KB	KB	106	+	KK	KK
35	+	KK	KB	107	+	KK	KK
36	+	KB	KB	108	+	KK	KK
37	+	KB	KB	109	+	KB	KB
38	+	KK	KK	110	-	BB	BB
39	+	KB	-	111	-	BB	BB
40	+	KB	-	112	+	KB	KB
41	-	BB	BB	113	+	KB	KB
42	+	KB	KB	114	+	KB	KB
43	+	KK	KK	115	-	BB	BB
44	+	KB	KB	116	+	KB	KB
45	-	BB	BB	117	-	BB	BB
46	+	KK	KK	118	+	KK	KK
47	-	BB	BB	119	+	KB	KB
48	+	KK	KB	120	+	KK	KK
49	+	KB	KB	121	+	KB	KB
50	-	BB	BB	122	+	KB	KB
51	+	KB	KB	123	+	KK	KK
52	+	KB	KB	124	+	KB	KB
53	+	KK	KK	125	-	BB	BB
54	-	BB	BB	126	+	KK	KK
55	+	KK	KK	127	+	KB	KB
56	-	BB	BB	128	+	KB	BB
57	+	KB	KB	129	+	KB	KB
58	+	KB	KB	130	+	KB	KB
59	-	BB	BB	131	+	KK	KB
60	-	BB	BB	132	+	KK	KK
61	+	KK	KK	133	-	BB	BB
62	+	KK	KK	134	-	BB	BB
63	+	KK	KK	135	+	KK	KK
64	+	KB	KB	136	+	KB	KB
65	+	KB	KB	137	+	KB	KB
66	+	KK	KK	138	+	KB	KB
67	+	KB	KB	139	-	BB	BB
68	+	KK	KK	140	+	KK	KK
69	+	KB	KB	141	+	KB	KB
70	-	BB	BB	142	+	KB	BB
71	+	KB	KB	143	+	KK	KK
72	-	BB	BB	144	+	KB	KB

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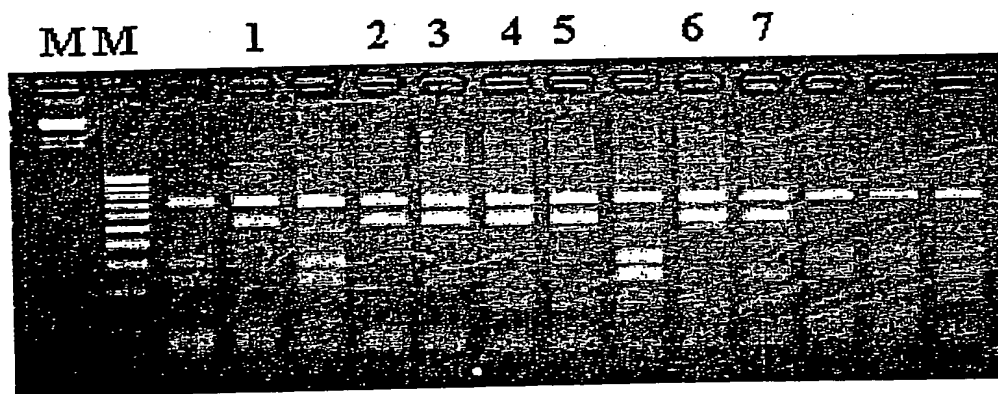
**Fig.11**



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**Fig.12**



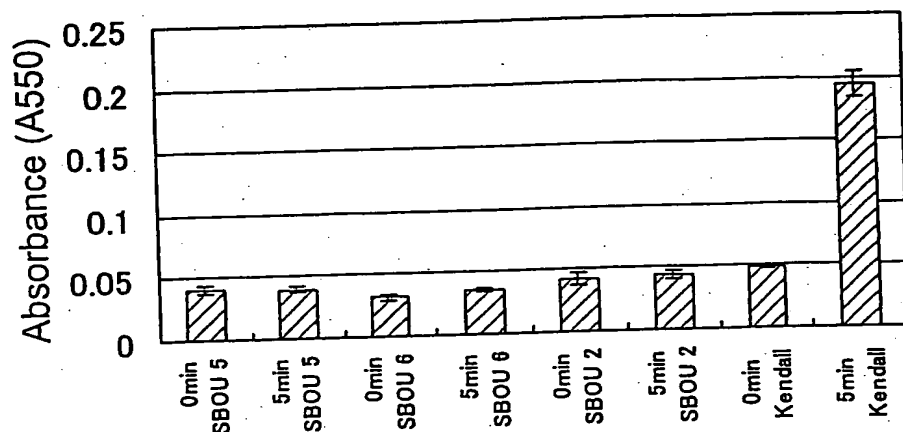
**M: Marker,**

1 and 5:SBOU2、 2:SBOU 5、 3:SBOU 6  
4:SBOU 1、 6:SBOU 3、 7:SBOU 4

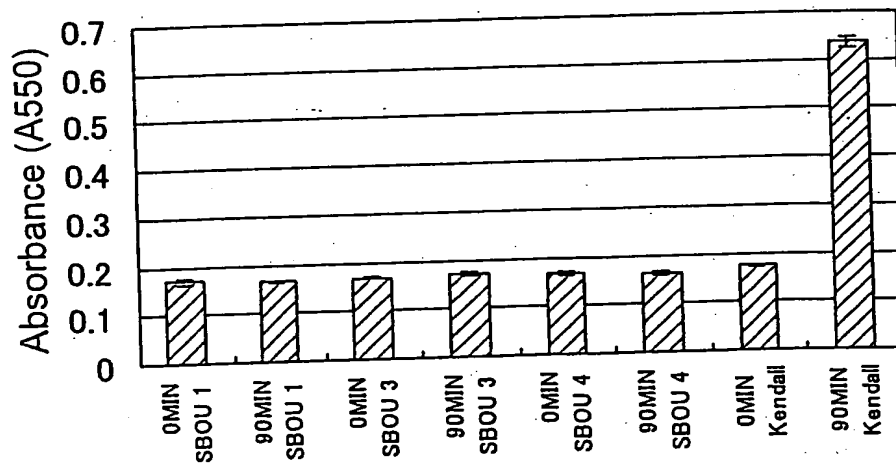
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**Fig.13A**



**Fig.13B**



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**Fig.14**

Variety	LOX+F4	LOX-F4
Barley moisture content (%)	10.9	11
Barley weight (g)	3000	3000
Steeping (%)	44.8	44.5
Steeping time (h)	82	82
Malt yield weight (g)	2571.6	2572.2
Malt yield percent (%ad)	85.7	85.7
Malt yield percent (%db)	90.3	90.7
Moisture content (%)	6.1	5.8
Mashing time (min)	9-15	9-15
Lautering speed (min)	8	17
Transparency	2	2
Color (EBC)	2.1	2.2
Boiling color (EBC)	3.2	3.3
Air-dried extract (%)	67	69.3
Anhydrous extract (%)	71.4	73.5
TN (%)	2.49	2.291
SN (%)	0.648	0.645
Crude protein (%)	15.6	14.3
KZ	26	28.1
EVG (%)	78.8	79
DP (*WK)	348	377
DP (WK/TN)	140	165
Viscosity (mPa·s)	1.87	1.89
$\beta$ -glucan (mg/l)	427	392
pH	5.97	6
Extract yield (%)	64.5	66.7

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**Fig.15**

